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The Director of Central Intelligence
Washington, D.C. 20505

National Intelligence Council

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MEMORANDUM FOR: Richard Levine
NSC Staff

FROM: Maurice C. Ernst
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SUBJECT: Stockpile Review Task 9 - Reliability of Additional Suppliers of Key Metals and Minerals

1. The objective of Task 9 is to obtain an Intelligence Community assessment of the reliability of foreign suppliers of strategic materials in a wartime scenario. This supplemental assessment covers 13 metal and mineral suppliers. The projected reliability of each additional country is judged by two criteria:

-- Intentions, i.e., would a country withhold supplies for political reasons.

-- Capabilities, i.e., would terrorist/insurgent activity significantly disrupt production and exports for a sustained period of time.

These are the only criteria used; other potentially determining factors, such as oil availability, are not considered.

2. Under these assumptions, a review of the political and economic dynamics in each of the 13 countries concluded that eight would be willing to sell minerals and metals to the US or the world market during the war. It was agreed that political ideologies, systems, and orientation would have little bearing on their willingness to sell their products. Economic/financial factors would dictate continuation of exports unless desired imports could not be obtained with the export proceeds. These countries are Argentina, Venezuela, Dominican Republic, Haiti, Algeria, Liberia, Nigeria and Morocco.

3. Even though a supplier of strategic materials may be willing to export, it may be unable to do so for at least a significant period of time because of terrorist or insurgent activity. During a prolonged

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conventional war, it is reasonable to expect a major upsurge in this sort of activity, with increased Soviet instigation and support, if not under direct Soviet control. Where well organized insurgent or guerrilla groups already exist, as in Southern Africa, the potential for effective disruptions of production and transportation facilities will be high.

4. The potential for effective disruption of exports of strategic commodities is considered especially high in five countries--Angola, Ghana, Madagascar, Rwanda, and Mozambique. Some of the main export transport routes from these countries can easily be denied. In wartime, the possibilities for disrupting exports become vast indeed. It would not be prudent for the US or the West to count on the availability of any strategic minerals from these countries during a protracted war.

5. Table 1 presents the rankings of each of the 13 countries with respect to reliability of supply, and provides supporting information concerning their importance to US imports and to world productive capacity. Table 2 reflects the addition of the 13 new countries to the original 26 and shows US mineral and metal imports and estimated Free World productive capacity which fall in each category. Five new strategic materials have been added to the table: lead, mercury, mica, graphite and beryllium concentrate.

Maurice C. Ernst

Attachments,
As stated

Table 1

	Strategic Material	Share of US Imports Supplied (1978-81) (percent)	Share of Capacity (percent)
Argentina	flourspar	negl.	negl.
Rank = 1	aluminum	negl.	1
	tin	negl.	negl.
	zinc	negl.	1
	lead	negl.	2
	iron ore	negl.	N/A
Dominican Republic	bauxite	negl.	negl.
Rank = 1	nickel	negl.	5
Haiti	bauxite	negl.	negl.
Rank = 1			
Venezuela	iron ore	negl.	N/A
Rank = 1			
Algeria	lead	negl.	negl.
Rank = 2	mercury	negl.	14
Angola	diamonds	negl.	N/A
Rank = 3			
Ghana	diamonds	negl.	2
Rank = 3			
Liberia	iron ore	negl.	N/A
Rank = 1			
Madagascar	mica, phlogopite	negl.	100
Rank = 3	graphite, natural chyrstelline	negl.	50
Morocco	cobalt	negl.	2
Rank = 1			
Mozambique	tantalum	negl.	3
Rank = 3			
Nigeria	tin	negl.	1
Rank = 1	tantalum		4
Rwanda	berylium concentrate	negl.	4
Rank = 3	tantalum	negl.	2
	tin	negl.	1

Table 2

Metals and Minerals by Category[1]

Metal/Mineral[2]	Cat. 1 (% US) (%Cap.) (Imp.)	Cat. 2 (% US) (% Cap.) (Imp.)	Cat. 3 (% US) (% Cap.) (Imp.)
Manganese Ore	65 (31)	24 (24)	----
Bauxite	85 (67)	4 (3)	Negl. (2)
Alumina	91 (27)	----	----
Manganese	----	----	Negl. (6)
Nickel	52 (51)	9 (2)	----
Tantalum	79 (63)	----	Negl. (5)
Tungsten	3 (6)	19 (5)	10-15 (39) concentrates
Zinc metal ore & concentrates	63 (38) 67	17 (7)	----
Tin	73 (48)	17 (11)	Negl. (7)
Rubber	90 (78)	5 (3)	Negl. (4)
Aluminum	66 (12)	----	----
Ferrochrome	15 (N/A)	71 (36)	6 (8)
Cobalt	10 (14)	3 (1)	62 (63)
Columbium	85 (93)	----	----
Chromite	17 (4)	44 (36)	----
Fluorspar	60 (25)	30 (10)	----
Platinum group metals	15 (8)	56 (41)	----
Vanadium	8 (Negl.)	58 (28)	----
Lead	Negl. (2)		
Mercury	Negl. (14)		

Mica, pholopite			Negl. (100)
Grapite, chrystelline			Negl. (50)
Beryllium, concentrate			Negl. (4)
Beryllium	39 (10)	----	----
Iron (ore)	9 (N/A)	----	----
Industrial Dia.	----	61 (N/A)	22 (N/A)
Ferro-manganese	2 (N/A)	42 (24)	----
Asbestos	----	3 (N/A)	----
Titanium Sponge	----	----	10 (2)
Antimony	----	----	49[3]

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1 Percentages are of worldwide totals based on volume but do not add to 100%. They do not include, as defined in the scenario, either Soviet, European or Middle Eastern production. For world capacity, the percentages do not include the US and are based on Bureau of Mines estimates of production capacity, based on known deposits, present capacities and additions underway or feasible including assumptions about increased prices.

Some US mineral imports come from a third country; different grades of material sometimes are under a single mineral.

2 Although the US imports small quantities of copper, lead and molybdenum, these commodities are not included because the US is the world's largest producer and a net exporter of all three.

3 This is a periodic average.